



**UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office**

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

MF

cu

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/204,222	12/03/98	ISHIWATA	N NE063

000466 WM51/1031
YOUNG & THOMPSON
745 SOUTH 23RD STREET 2ND FLOOR
ARLINGTON VA 22202

EXAMINER

KLIMOWICZ, W

ART UNIT	PAPER NUMBER
----------	--------------

2652

DATE MAILED:

10/31/00

13

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

MS

Office Action Summary

Application No.

09/204,222

Applicant(s)

ISHIWATA ET AL.

Examiner

William J. Klimowicz

Art Unit

2652

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- 1) ☒ Responsive to communication(s) filed on 21 August 2000.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 and 21-33 is/are pending in the application.
- 4a) Of the above claim(s) 22-31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17, 21, 32 and 33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some * c) ☐ None of the CERTIFIED copies of the priority documents have been:
1. ☐ received.
2. ☐ received in Application No. (Series Code / Serial Number) _____.
3. ☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Attachment(s)

- 15) ☐ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

Newly submitted claims 22-31 are directed to an invention that is independent and distinct from the invention originally claimed for the following reasons: The original claims as set forth do not recite a subcombination exclusively directed to inclined end walls of a center region void of magnetic shields functioning as electrodes in a merged head combination.

This application therefore contains claims directed to the following patentably distinct Group of inventions:

- I. Claims 1-17, 21, 32 and 33, drawn to a combination merged magneto-resistive head having shields functioning as electrodes, classified in class 360, subclass 317.
- II. Claims 22-31, drawn to a magnetoresistive element having inclined walls in a center region, classified in class 360, subclass 324.2.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not require, inter alia, inclined side walls; particularities

Art Unit: 2652

of the insulation film, etc.. The subcombination has separate utility such as a tunnel-junction MR element in a non-merged magnetic head.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 C.F.R. § 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a diligently-filed petition under 37 C.F.R. § 1.48(b) and by the fee required under 37 C.F.R. § 1.17(h).

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 22-31 are withdrawn from consideration as being directed to a non-elected invention. See 37 C.F.R. § 1.142(b) and M.P.E.P. § 821.03.

Drawings

The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on August 21, 2000 have been approved.

Abstract

The proposed abstract correction filed on August 21, 2000 has been approved.

Claim Objections

Claims 4, 5, 13 and 21 are objected to because of the following informalities:

Art Unit: 2652

With regard to claim 4 (line 3) and claim 5 (line 3), the word "film" should be changed to the word --layer- in order to remain consistent with the preceding claim language.

With regard to claim 13, line 9, the word "agroup" should be changed to the phrase --a group--.

With regard to claim 21 (line 25), the word --film-- should be inserted after the phrase "magnetic pole" in order to remain consistent with the preceding claim language.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 32 and 33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regard to claim 32 (line 35), the phrase "the center region" lacks positive antecedent basis. Additionally at line 36 of claim 32, the phrase "so that flowing almost in a..." is vague and ambiguous.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 2652

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 1-12, 14, 16, 17, 21, 32 and 33 are rejected under 35 U.S.C. 102(e) as being anticipated by Dill et al. (US 5,898,548).

See the previous Office action for a full description of Dill et al. (US 5,898,548) as applied to the claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dill et al. (US 5,898,548).

See the previous Office action for a full description of Dill et al. (US 5,898,548) as applied to the claims.

Response to Arguments

Applicant's arguments filed August 21, 2000 have been fully considered but they are not persuasive.

The Applicants allege that Dill et al. (US 5,898,548) does not show the shields serving as electrodes for the MTR head, stating "[w]ith reference to Figure 3, the first and second magnetic

Art Unit: 2652

shields are layers S1 and S2 ...the magnetic shields do not come in direct contact with the MR head.” The Applicant further alleges that “[i]n Figure 4a there is shown the current coming from the left on electrode 102 going through the MR head and exiting to the right via electrode 104.” (see page 10, last line through page 11, line 2 of Applicants' amendment and response B).

At the outset, the Examiner notes that Figure 3 of Dill et al. (US 5,898,548) is a prior art depiction within Dill et al. (US 5,898,548), which the Examiner has not relied upon in the rejection. More pertinently, however, the Examiner steadfastly maintains that the shields S1 and S2 of Dill et al. (US 5,898,548) function as electrodes. The Examiner directs the Applicants attention to the abstract of Dill et al. (US 5,898,548) and FIG. 4A in conjunction with Fig. 4B. In Fig. 4A, there appears to be a drawing error in Dill et al. (US 5,898,548), since G1 should actually be S1 when compared with Fig. 4B (and since the current I could not possibly flow through the insulative gap G1. The current flows through shield S1, turning up and vertically through electrode 102 continuing up and exiting eventually out of electrode (104), and to the right through shield S2 (second shield).

The Applicants allege that Dill et al. (US 5,898,548) does not show a biasing layer sandwiching the center region from both sides (see page 11, lines 7-13 of the amendment B and response).

The Examiner notes that biasing element (150) in conjunction with the insulative material (153) between the MR and the element (150), function as the claimed “end region” in the manner which is completely and unambiguously consistent with that shown in the instant application, wherein an insulative material is disposed between the biasing layer and the MR element. As

Art Unit: 2652

such, the instantly claimed invention clearly reads on the "sandwiching" as set forth and recited in the claims.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

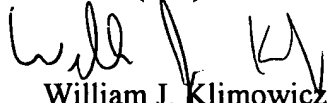
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William J. Klimowicz whose telephone number is (703) 305-3452. The examiner can normally be reached on M-F (6:30AM-5:00PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T. Nguyen (Acting) can be reached on (703) 305-9687. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-9051 for regular communications and (703) 308-9051 for After Final communications.

Art Unit: 2652

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.


William J. Klimowicz
Primary Examiner
Art Unit 2652

WJK
October 27, 2000